Scelles N, Szymanski S & Dermit-Richard N (2018) Insolvency in French soccer: The case of payment failure. *Journal of Sports Economics*, 19 (5), pp. 603-624. Available at: https://doi.org/10.1177/1527002516674510. Reprinted by permission of SAGE Publications.

Insolvency in French soccer: The case of payment failure

Nicolas Scelles[1], Stefan Szymanski[2] and Nadine Dermit-Richard[3]

[1]*Faculty of Health Sciences and Sport, University of Stirling, Stirling, United Kingdom*

Faculty of Health Sciences and Sport

University of Stirling

Pathfoot

Stirling, FK9 4LA, United Kingdom

+44 1786 466252 / nicolas.scelles@stir.ac.uk (corresponding author)

[2]*Department of Kinesiology, University of Michigan, Ann Arbor, MI, USA*

Department of Kinesiology

University of Michigan

3118 Observatory Lodge, 1402 Washington Heights

Ann Arbor, MI 48109-2013, United States of America

+1 734 647 0950 / stefansz@umich.edu

[3]*Faculty of Sports Sciences, University of Rouen, Mont-Saint-Aignan, France*

Faculté des Sciences du Sport

Université de Rouen

Boulevard André Siegfried

76821 Mont-Saint-Aignan, France

+33 2 35 14 67 98 / nadine.dermit@univ-rouen.fr

Acknowledgements: We are grateful to Virginie Scelles, Jean-Claude Laroppe and Stephen Morrow, as well as conference participants at the 2015 European Conference in Sports Economics and European Association for Sport Management Conference, two anonymous reviewers and the editor for their very helpful comments. Errors are our own.

Insolvency in French soccer: The case of payment failure

Abstract

This paper examines insolvency (payment failure) in the top three divisions of French soccer. Between 1970 and 2014 we observed 79 cases of insolvency arising from participation in the top two or three (since 1993) divisions**.** We find that demand (attendance) shocks can account for insolvency to a significant degree. We also find that insolvency can be explained by club status and ownership structure, with professional status and the Association structure being more likely to lead to insolvency. We also examine the post-insolvency performance of soccer clubs and find that the adverse consequences of insolvency are long lasting.

Keywords: insolvency, payment failure, French soccer, attendance, demand shocks, club status, ownership.

Insolvency in French soccer: The case of payment failure

1. Introduction

Insolvency is a systematic problem in the world of European soccer. In 2012 UEFA, the governing body of European soccer reported that 56% of clubs failed to meet at least one of the following criteria: no negative net equity, no qualification by the auditors as to whether the business was a going concern and no overdues payable (UEFA, 2012; see also Szymanski, 2015, chapter 8). This paper examines insolvency (payment failure) at the highest levels of French soccer. Between 1970 and 2014 we observed 79 cases of insolvency arising from participation in the top two or three (since 1993) divisions, a population of 56 to 78 clubs.[1]

In this paper, our objective is to explain the causes and consequences of insolvencies in French soccer. Szymanski (2012) examined data for English soccer clubs in the top four divisions (92 clubs) and found a similar incidence of insolvency (67 cases between 1982 and 2010). His results suggested that insolvency could be explained by negative productivity shocks (underperformance of the players) or negative demand shocks (revenues falling below expected levels). We also find that demand shocks can account for insolvency to a significant degree. Additionally, in the French context insolvency can be explained by club status and ownership structure, with professional status and the Association structure being more likely to trigger insolvency. We examine the post-insolvency performance of soccer clubs and find that the adverse consequences of insolvency are long lasting.

By extending the research by Szymanski (2012) from English to French soccer, we show that insolvency appears to be driven by common forces in European soccer, while noting idiosyncratic differences between countries.

Our paper is structured as follows. First we review the literature on insolvencies in European soccer. Section 3 explains the evolution of French insolvency law and section 4 examines the organization of professional soccer in France. Section 5 describes our data on insolvency and section 6 reports our regression results. The last section concludes.

2. Literature review of insolvencies in European soccer

There is now a substantial literature on the financial problems of European soccer clubs (see e.g. the Special Issue by Journal of Sports Economics introduced by Lago, Simmons and Szymanski, 2006) but, as yet, few studies on the topic of insolvencies. Buraimo, Simmons and Szymanski (2006) in their discussion of the financial problems of English clubs do not deal specifically with insolvencies but refer to them. They note that the usual reasons cited to explain why clubs amass high levels of indebtedness, including an inability to sell players as assets through the transfer market, a loss of revenues consequent on relegation, an inability to align costs and revenues following relegation, an inability to maintain loan payments on capital expenditure such as a new stadium, and a failure to realize expected revenues from TV broadcasting deals.

Beech, Horsman and Magraw (2008, 2010) identify five types of insolvencies in English soccer:

1. clubs that have failed to cope with relegation;
2. clubs that have failed to pay monies due to the government;
3. clubs that have seen ‘soft’ debt become ‘hard’ debt;
4. clubs that have lost the ownership of their stadium;
5. ‘repeat offenders’.

As the authors indicate, these types are not mutually exclusive. Szymanski (2012) uses a unique database of financial accounts for English soccer clubs between 1973/74 and 2009/10 to examine the causes of insolvency. Two hypotheses (also not mutually exclusive) are considered. The first is "irrational exuberance", meaning that owners attempt to achieve a significant improvement in league position which is not affordable, leading to financial crisis. The second is that club finances are subject to negative shocks – either to productivity (on the field) or to demand – and that a series of such shocks can lead to insolvency. His empirical model provides evidence in support of the negative shocks hypothesis.

Barajas and Rodríguez (2010) use a logistic regression to explain why some clubs are under administration in Spanish soccer. They rely on a sample of 35 clubs in 2008, of which six were in the legal insolvency process of administration in that year. Their selected explanatory variables are mainly financial ones: financing rate (the ratio of short term debt to current assets), indebtedness (Total Debts / Total Assets), the ratio of total revenues to debt, the ratio of staff expenses to operating revenues and the ratio short-term to long-term debt. They also include divisional dummies. They find no significant impact of their explanatory variables on the likelihood that a club has entered the administration process.

Barajas and Rodríguez (2014) analyze Spanish clubs during the period from 2007 until 2011, using Altman's methodology to classify clubs according to their Z-score values (Altman, 1968, 2000; Altman, Haldeman & Narayanan, 1977). They note that Spanish soccer is in a very poor financial condition with most clubs being at risk of going bankrupt. The authors identify a number of steps required to restore financial stability including raising equity from the capital markets or club members, revenue enhancement, wage cuts and working to reduce current liabilities.

3. Insolvency laws in France

Under French law any debtor unable to meet its obligations is liable to enter a "collective insolvency proceeding" (in French "procedure collective"; Bayle, 2009). A major landmark in the development of this process was the law 67-563 of 13 July 1967 on judicial resolution, liquidation of assets, personal bankruptcy and bankruptcies (in French, "le règlement judiciaire, la liquidation de biens, la faillite personnelle et les banqueroutes") which was intended to protect debtors from their creditors while preparing a recovery plan (Stankiewicz Murphy, 2011).[2] Since the law of 1967, all types of private sector legal entities (even "associations") have been subject to collective insolvency proceedings (Bayle, 2009). In line with developments in insolvency laws in the US and other European countries, the legal treatment of insolvency shifted in favor of debtor companies in 1980s (Stankiewicz Murphy, 2011). Tetley and Bayle (2009) summarize the sequence of relevant laws from 1984 to 2008, including three principal landmarks:

- **1984**: The law 84-148 of 1st March 1984 introduced early warning procedures, which obliged managers to report signs of financial weakness and draw up a recovery plan. A court-supervised procedure to reach a compromise with creditors was also introduced.
- **1985**: The law 85-98 of 25 January 1985 favored company reorganization (in French "redressement") over winding-up proceedings. Reorganization became the guiding principle, making liquidation proceedings a last resort (Bailly, 2013). This law defined the notion of a "payment failure situation" (in French, "cessation de paiements", sometimes called "depôt de bilan" – filing for bankruptcy – in common parlance) as "the inability [of the debtor] to meet current liabilities out of disposable assets", based on a decision of the Court of Cassation (appeals court) on 14 February 1978 (Hyest, 2005).
- **2005**: The law 2005-845 of 26 July 2005 introduced four types of proceedings: conciliation, safeguard proceedings (in French "procédure de sauvegarde"), judicial

reorganization, and liquidation. Conciliation involves only limited judicial supervision, whereas the three other proceedings are more involved and require the court to nominate those required to carry out the work of reorganization or liquidation.

For the purposes of this paper we use the concept of "payment failure situation" (triggering a legal response) as synonymous with "insolvency". Technically speaking, a payment failure situation is triggered when *current* liabilities are greater than *disposable* assets, while insolvency is usually defined as the situation where *total* liabilities are greater than *total* assets (Tetley, 2009). However, since payment failure situations triggering a legal response are akin to insolvency proceedings in other countries, we feel this approach is justified. Furthermore, we do not classify safeguard procedures as insolvencies, since they are not triggered by a payment failure situation (i.e. a formal test of assets and liabilities), but simply the judgment of the company executives that the enterprise is facing a severe financial risk.

We have compiled a list of all relevant cases in French soccer examined in this paper and the procedures followed in each case. The list is available on request from the authors.

4. The organization of professional soccer in France

We have data on insolvencies in French soccer clubs over the period 1970-2014. We now document the structural changes in the organization of the competitive hierarchy.

Our focus is primarily on professional clubs, by which we mean clubs where all or almost all players are paid employees rather than amateurs, which also tends to entail a more commercially oriented operation. Prior to 1970 there were professional clubs participating in two divisions connected by promotion and relegation, and amateur clubs also operating within a promotion/relegation hierarchy, but no automatic promotion/relegation link between the amateur and professional divisions. Beginning in 1970 the two systems have been fully integrated into a single hierarchy linked by promotion and relegation. Since 1970 there have four further restructurings of the divisions, as set out in Table 1. From 1970 to 1993 the second division included both professional clubs and amateur clubs. Since 1993, the second division comprises only professional clubs while the third division admits both professional and amateur clubs, with the latter permitted to pay relatively modest sums to "non-professional" players on the basis of a 'federal contract'.

Table 1

The legal definition of soccer clubs, whether amateur or professional, has changed several times in recent decades. Until around 1990, most of the clubs were member associations, i.e. members paid a subscription to belong to the association, which was run by a committee elected by the members, there were no shareholders and any financial surplus had to be reinvested in the association. Usually these clubs were supported by local authorities through direct subsidies. Some clubs were defined as mixed economy companies ("sociétés d'économie mixte", SEM), meaning that they were controlled jointly by a members' club and a local government authority. A third organizational structure that some clubs adopted was the limited liability company with sporting object ("sociétés anonymes à objet sportif", SAOS). Until 1992, the shares of such companies had to be mainly held by the association,

but after 1992, a private partner could be the main shareholder (the association minority interest was still not allowed to fall below 34%). Dividend payments were not permitted under any of these organizational structures.

In 1999 the Buffet law introduced a new ownership form: professional sport limited company ("sociétés anonymes sportives professionnelles", SASP). This form allows a private partner to own the entire capital of a club and receive dividends. By 2013/14, almost all clubs in the top two divisions had adopted the SASP structure (LFP/DNCG, 2014). Over the entire period the role of local government has decreased and reliance on commercial revenue streams has increased.[3]

These institutional reforms reflected changes in the commercial structure of soccer as TV revenues became more important, as well as a declining willingness of government to fund professional sport. Reform was also driven by desire to put clubs on a better financial footing, given the persistence of liquidity and insolvency problems. By the late 1980s insolvency was perceived to be a threat to the stability of the championship system and this led to the creation in 1990 of the "Direction Nationale du Contrôle de Gestion" (DNCG) to regulate the financial decisions of soccer clubs (Dermit-Richard, 2004). Prior to the creation of the DNCG there existed the "Commission Nationale du Contrôle de Gestion" (CNCG), established in 1974, which had primarily an advisory role. Between 1990/91 and 1992/93, the DNCG regulated clubs in the top two divisions (56 clubs); from 1993/94 to 1995/96, clubs in the top three divisions (78 clubs); since 1996/97 it has regulated clubs for the top two divisions (38 to 42 clubs) while clubs in third division have been regulated by the control committee for federal (amateur) championships (Dermit-Richard, 2004).

The powers of the DNCG include prohibiting the recruitment of players, auditing club payrolls and, as a last resort, imposing relegation independently of sporting performance (administrative relegation). Before the DNCG era, some insolvent clubs were subject to

administrative relegation while some others were not (not relegated at all or relegated by one division on the usual grounds of sporting merit); since the start of the DNCG era all insolvent clubs have been administratively relegated as a punishment.[4] Since 1990/91, the sanctions have varied: relegation by one division (administrative relegation only), two divisions (also administrative relegation only or both administrative and sporting relegation), among others. Since 2010/11, all insolvent clubs have been relegated by at least two divisions (administrative relegation).

Gouguet and Primault (2006) argue that the DNCG has allowed French soccer to avoid the financial crisis encountered by the other major European leagues (England, Germany, Italy and Spain). Andreff (2007), however, claims that the DNCG has not been able to effectively control the financial problems of French clubs, mainly because of the lack of transparency and disclosure. We consider the effect that the DNCG has had on declared insolvencies below.

5. Descriptive statistics

Our dataset consists of all clubs participating in the top two divisions from 1970/71 to 1992/93 and top three divisions since 1993/94. Over the period 1970-2014, we have identified 79 cases of insolvency. Figure 1 shows the incidence of insolvency by year. While insolvencies appear to have been most frequent in the 1990s, there are plenty of examples throughout the four decades.

In eight cases clubs were liquidated during the season and because of this were officially ranked last, a position not necessarily representative of their sporting performance when they were insolvent. For these clubs, we chose to use league performance data from the previous

season in our analysis.[5] Our date also includes seven cases where the club became insolvent at a lower level competition in the season immediately following participation in one of the top two or three divisions.[6]

Figure 1

Table 2 summarizes the 79 cases where clubs were insolvent while participating or as a consequence of participation in the top three divisions. As noted by Szymanski (2012), insolvency at the highest level of competition is rare. Only seven clubs were insolvent while in the 1st division: Rouen (1977/78), Reims (1978/79), Bordeaux, Nice (both 1990/91), Toulon (1992/93), Toulouse (2000/01) and Valenciennes (2013/14). In seven cases clubs were insolvent after having been relegated from the first division in the previous season.[7]

Table 2

We now consider two measures of team performance – league position and match attendance – for clubs that entered insolvency, looking at the twelve year period prior to insolvency and the twelve year period after insolvency. Since we shift our focus from the top two divisions up to 1993 to the top three divisions after 1993, we show the mean performance for club insolvencies from each period separately. Figures 2 and 3 show league position and attendance for clubs that were insolvent during the period 1970-1993, while Figures 4 and 5 show league position and attendance for clubs that were insolvent during the period 1993-2014. Inspection of the figures shows that the pattern in each period is in fact broadly similar.

Before examining the charts we should explain how we constructed our normalized measure of league position. In each division each club achieves a league position based on points and, if necessary, goal difference. To account for the different levels in the league hierarchy we convert league position in the following way:

- teams with (normalized) positions 1-20 in the first division are given positions 1 to 20,
- teams with (normalized) positions 1-20 in the second division are given positions 21 and 40,
- teams with (normalized) positions 1-20 in the third division are given positions 41 and 60[8].

Figure 2

Figure 3

Figure 4

Figure 5

Pre-insolvency performance

Considering season t-12 to t, where season t is the season in which the insolvency event occurred, Figures 2 and 4 show a consistent pattern for league position. Average league position is improving modestly and consistently (recalling that better league positions are those with the lower numbers) until around three seasons prior to insolvency (t-3 or t-2), at which point league performance starts to deteriorate. The average improvement is about 10-

15 league places over ten years, while the decline leading up to insolvency amounts to around 2-3 places on average over 2-3 years.

Figures 3 and 5 show that in the three years leading up to insolvency the attendance pattern is also broadly similar for the two insolvency windows: attendance falls vey sharply, by around 40%. It is well established that lower league positions are associated with lower attendance (see e.g. Szymanski (2015, chapter 4)), but the drop here is much larger than one might expect for the modest fall in average position. For the ten years prior to that (when league position is trending positively) the attendance picture is slightly different for the two windows. For insolvencies prior to 1993/94, average attendance is relatively stable, while for insolvencies since 1993/94 attendance is rising, by around 50% over a ten-year period. These differences may reflect more general trends in the popularity of professional soccer in France.

Post insolvency performance

From Figures 2 and 4 we can see that there is a very sharp drop in league position immediately following insolvency, by about 30 places for insolvencies prior to 1993/94 and about 40 places for insolvencies since 1993/94. This is due to the automatic and severe sporting sanctions applied by the French soccer authorities. For the earlier window average league position is roughly stable right up to t+12, while in the later window it recovers by around ten places by around t+3 and stabilizes thereafter. Overall, this suggests that average clubs struggle to recover from the penalties imposed on the clubs by the soccer authorities, even after insolvency has allowed the club to escape liability for some or all of its debts.

In the light of this, Figures 3 and 5 might seem surprising, since attendance rises significantly in both windows, reaching pre-insolvency levels by t+10, and far exceeding them by t+4. However, some caution must be used in interpreting the data, especially for the second window where we have relatively few data points. As mentioned above, we suspect that these changes may mainly reflect changes in the popularity of French soccer in general over time.

In comparison to Szymanski (2012) the pre-insolvency patterns are rather similar, although the improvement in league position in the English case is slightly more modest (around 8 places on average from t-15 to t-6) and the fall leading up to insolvency starts earlier (from t-5) and is sharper (about 18 places). He also identifies a large fall in revenues in the years leading up to insolvency, which parallels the sharp fall in attendance observed in the French case. However, there is a very significant difference in post-insolvency performance, since English clubs on average recovered to reach the same position they occupied in t-5 by t+5. Insolvency in English soccer appears to be a temporary setback, in France it is a permanent one. This may well reflect the might lighter sporting penalties applied in England. While enforced relegation, often by more than one division, has long been the norm in France, there were no sporting penalties in England until 2005. Currently insolvent clubs face a points penalty (usually nine points) which makes relegation more likely, but not inevitable, and never by more than one division.

To explore this further, in Table 3 we compare the post insolvency performance of clubs with that of clubs that are relegated purely on sporting merit.[9] This table shows that insolvent clubs are far less likely to recover to their pre-insolvency league position, either within five or ten years of relegation, than clubs that were relegated on sporting merit. Table 3 shows that while 52.5% of clubs relegated on sporting merit recover to reach the division they were relegated

from within 5 years, and 66% do so within 10 years, only 25.5% and 36% respectively of insolvent clubs achieve the same feat. The percentage differences are even larger for clubs relegated from the second and third levels. The only exception is the relatively small number of cases from the top division, which are slightly more likely to get back to the top division within 5 years than clubs relegated on sporting merit are on average.

Table 3

Since clubs may be punished for insolvency by relegation by more than one division, Table 4 reports the fraction recovering to the pre-punishment levels within 5 and 10 years. Not surprisingly, relegation by more than one division makes recovery far less likely.

Table 4

6. Regression analysis

The descriptive statistics suggest that falling demand (declining attendance) is associated with insolvencies. We now develop a regression model to test whether shocks to demand can be identified as a cause of insolvency. Our regression strategy is to estimate a relationship between league performance and attendance, as a proxy for demand, and then to use the residuals from this regression as explanatory variables in a probit regression for insolvency. Although the rise of broadcasting has made attendance less important as a source of revenue for French soccer clubs (see e.g. Andreff & Staudohar, 2000), it remains a good proxy for

overall demand since broadcasters and sponsors will pay more for rights to popular clubs (see e.g. Buraimo, Paramio & Campos, 2010).

Following Leach (2006) we adopt an error correction framework; our performance/attendance regression model is defined as:

$$\Delta relatt_{it} = \gamma_0 + \gamma_1 lnrelatt_{it-1} + \gamma_2 \Delta lnrelatt_{it-1} + \gamma_3 lnp_{it-1} + \gamma_4 \Delta lnp_{it} + \gamma_5 lnrelpop_{it} + \text{main club dummy} + \text{promotion/relegation dummies} + \text{division/tier dummies} + \text{performance/tier interaction dummies} + \eta_{it} \quad (1)$$

Where relatt is the average attendance of the club divided by the sum of all clubs' average attendances in that season, lnp is league rank, relpop is the population of the club urban area (referring to the French concept of "unité urbaine") divided by the sum of all urban areas with at least one club, and "main club" is a dummy variable equal to 1 if the club is the main club in its urban area and 0 otherwise. Since we are using (1) to obtain best linear unbiased predictors of attendance (revenue), rather than estimates of the structural parameters, we do not need to assume the exogeneity of the right hand side variables.

Table 5 presents the results of the regressions for attendance. The results are intuitive: higher attendance is associated with clubs with higher league positions, participating in higher league divisions and playing in urban areas with larger populations. Promoted clubs enjoy a significant boost to attendance while relegated teams lose support. The signs and significance levels of the coefficients are comparable to those found by Szymanski (2012) for English soccer.

Table 5

The main focus of interest here is the residuals from (1). We chose to use the residuals from the fixed effects specification in Table 5 to estimate the probability of insolvency (Table 6). In addition we included variables indicating (i) the interaction between club status (Professional or Amateur) and ownership form (Association or Company), (ii) divisional status (first, second or third) (iii) the presence of the DNCG or amateur control regulatory regimes.

Table 6

Columns 1-6 of Table 6 differ according to the number of residuals used. Thus column 1 uses residuals in t, column 2 adds residuals in t-1, and so on until t-5. This captures the idea that insolvency can be triggered by a sequence of negative shocks. The residuals are of the right sign (negative) and significant for each regression from t to t:t-3. Note that although the coefficient is larger when only the more recent shocks are included, a longer history also means a greater cumulative effect. Overall we believe these results strongly support the findings of Szymanski (2012) that negative demand shocks contribute significantly to the probability of an insolvency event.

We also find that the coefficients for Professional * Association and Professional * Company have a positive sign and are significant in each regression, although they are much higher for Professional * Association than Professional * Company. This suggests that the Professional status is more likely to lead to insolvency than the Amateur status, but that the transformation to a more commercial structure (away from the traditional association structure) has reduced the probability of insolvency for Professional clubs. This seems plausible: amateur clubs are

less likely to get into financial problems simply because they do not pay players and the wage bill is main financial risk of most clubs. Association status typically entails less concentrated ownership, and therefore less certain financial backing (given shared responsibility, there is a significant risk of free-riding).

Not surprisingly, clubs in lower divisions are more likely to enter insolvency. However, we find no evidence that the regulatory organizations, either the DNCG or the Amateur club control, have had any impact on reducing insolvency, consistent with the views of Andreff (2007). We even find a significant positive effect of DNCG (at the 10% level only) in our first regression, suggesting that the DNCG may have generated even more insolvencies[10].

7. Conclusions

In this paper, our objective was to examine the causes of insolvency in French soccer over the period 1970-2014. Our dataset included all professional soccer clubs operating during this period.

We estimate the impact of demand shocks, calculated by estimating the difference between actual and expected attendance levels, based on team performance, club fixed effects and other relevant variables. Our results show that negative demand shocks significantly increase the likelihood of insolvency. The cumulative effect of these shocks can extend up to three seasons prior to the insolvency event. These findings are very similar to those of Szymanski (2012), whose data covered a similar period and who used a similar methodology for the case English professional soccer.

Indeed, although the regulatory regimes are quite different, insolvency seems to present itself in a similar way in both soccer league systems. Over the period 1970-2014, 79 insolvencies occurred in French professional soccer, more than in English professional soccer (Szymanski, 2012). Because there are fewer professional clubs in France, there are fewer club-years in our data – 2636 versus 3404 in the English professional soccer dataset. The frequency of insolvencies per club-year appears broadly similar: 3% in France compared to 2% in England.

We also find an increased probability of insolvency connected to the organizational structure of the club; professional clubs (i.e. those who employ professional rather than amateur players) and clubs organized as member associations are more likely to become insolvent.

While our results suggest that insolvency may be triggered by broadly similar causes in England and France, to some extent beyond the control of the clubs themselves, the regulatory responses differ significantly. In France the soccer authorities have long imposed a relegation penalty on insolvent clubs, often by more than one division, while in England sporting sanctions have only been applied since 2005, remain lighter, and may not even force a club to be relegated.

Our results have important policy implications. First, while the regulatory regimes in English and French soccer differ radically, the results, as least with respect to the incidence of insolvency, appear broadly similar, suggesting there are deeper systemic issues. Szymanski (2012, 2015) suggest that the systemic problem may be the promotion and relegation system, which injects a good deal of uncertainty into the competitive process.

Second, the idea of giving fans more power through ownership is a popular one at the moment, while our results suggest that this might increase financial instability for professional clubs. Third, while insolvency is often attributed to overambitious expansion by the club management, it may be that simple bad luck plays a more important role. Considering post insolvency events, we find that clubs frequently struggle to achieve the same level of competition again, mainly because of the difference of level between t and t+1. This raises the question of whether penalties imposed by the French soccer authorities are justified or not. Given that the penalties can prevent a club from recovering to its previous level this is an important concern.

Footnotes

[1] Soccer clubs play in leagues that are connected through the system of promotion and relegation which enables clubs to move to a higher level based on sporting merit, replacing those that perform poorly (this is in sharp contrast to the American model in which teams do not move between different levels of competition). Given this pyramid structure, there is a large number of clubs operating below this level and many of these have also become insolvent, but these cases are harder to document.

[2] This procedure was limited to entities that could prove (a) the financial situation was not irreparable (b) there would be a full and speedy recovery prospects and (c) liquidation would be damaging to either the regional or the national economy. In practice the law did little to preserve insolvent businesses (Stankiewicz Murphy, 2011).

[3] Until the end of the 1980s clubs obtained about 50% of the revenues from gate receipts, 30% form sponsorship and 20% from local government subsidies. TV revenues were negligible. Since then the contribution of TV rights has risen to around 50% of the total, gate revenues has fallen to as little as 10%, and public subsidies have almost disappeared (see Andreff (2012) and LFP/DNCG (2012, 2014)).

[4] The exception is Marseille, which won the second division championship in 1994/95 and was punished by not being promoted to the first division instead.

[5] For example, AC Ajaccio played only three games during the season 1974/75, when it was bankrupt. In our analysis, we consider this insolvency as having occurred at the end of 1973/74. The exception is Saint-Brieuc in 1996/97 as this is the only club that was liquidated in-season for which we could find both their sporting performance and their attendance when they were liquidated. This is also the only club that got promoted the previous season.

[6] (i) Bourges and Reims became insolvent respectively in 1977/78 and 1991/92 while in the 3rd division, having been relegated from the 2nd division (in the case of Reims, for financial difficulties), (ii) Tours and Gap became insolvent in 1993/94 and 2011/12 respectively, while in the 4th division, having been relegated from 3rd division for financial difficulties, (iii) Uzès became insolvent in 2014/15 while in the 5th division, having been relegated from the 3rd division both for sporting and financial reasons, (iv) Le Mans became insolvent in 2013/14 while in the 6th division, having been relegated from 2nd division both for sporting and financial reasons, (v) Cassis-Carnoux became insolvent in 2010/11 while in the 7th division and after having been relegated from 3rd division both for sporting and financial reasons. We did not include clubs that became insolvent in the season immediately following participation in one of the top two or three divisions if we did not find evidence that

insolvency occurred ‘during’ rather than ‘at the end of’ the season. The reason is that insolvency during the season is more likely to be the consequence of problems in the previous season, while insolvency at the end of the season is more likely to be caused by problems in the current season.

[7] Rennes in 1977/78, Troyes in 1978/79, Marseille in 1980/81 and 1994/95 (relegated for administrative reasons in 1993/94), Angers in 1981/82, Valenciennes in 1982/83 and Brest in 1991/92 (relegated for financial difficulties in 1990/91). Ajaccio (relegated from the first division in 1972/73) was bankrupt in 1974/75 after having played only three games.

[8] The appendix describes the normalization in more detail.

[9] Only 55 cases of insolvencies are included here. Of the remaining insolvency cases 14 clubs were not relegated (Mulhouse being even promoted in 1988/89), one disappeared (Nevers in 1993/94) and nine clubs have had not sufficient time to regain their previous level (i.e. these clubs were relegated by more divisions than the number of seasons since played). When extending to 10 years, five other cases are excluded as four can still regain their previous level within 10 years at the time of writing this paper while Saint-Seurin merged with Libourne six years after its insolvency.

[10] Eight insolvencies occurred or were considered as having occurred in 1990/91 (first season with DNCG) in our regression analysis but the DNCG could not really prevent them as it was implemented only in September 1990 so too late so as to operate an a priori monitoring (before the beginning of the season) on clubs (on their transfers and salaries). When we allocate 0 instead of 1 for DNCG in 1990/91, it becomes insignificant with a negative sign and is close to have a significant impact at the 10% level for our regressions with attendance residuals t:t-4 and t:t-5 with p-values equal to 0.101 and 0.102, respectively (while Amateur control has a negative and significant impact at the 10% level with attendance residuals t:t-3 and t:t-5, and at the 5% level for attendance residuals t:t-4). Our contrasted results for DNCG regarding whether we consider 1990/91 as a season with or without DNCG could translate its paradoxical effect: positive by imposing financial planning to clubs and monitoring their solvency for the next season (from 1991/92); negative by strongly sanctioning clubs with relegation, meaning fewer revenues so fewer opportunities to face their expenditure (in particular in 1990/91 when the new DNCG had to demonstrate its power of sanction; Dermit-Richard, 2004).

References

Altman, E. I. (1968). Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *Journal of Finance, 23*(4), 589-609.

Altman, E. I. (2000). Predicting financial distress of companies: Revisiting the Z-score and Zeta® models, *Working Paper Stern University*.

Altman, E. I., Haldeman, R. G., & Narayanan, P. (1977). ZETATM analysis: A new model to identify bankruptcy risk of corporations. *Journal of Banking and Finance, 1*(1), 29-54.

Andreff, W. (2007). French Football: A financial crisis rooted in weak governance. *Journal of Sports Economics, 8*(6), 652-661.

Andreff, W. (2012). Mondialisation économique du sport. Louvain-la-Neuve, Belgium: De Boeck.

Andreff, W., & Staudohar, P. D. (2000). The evolving European model of professional sorts finance. *Journal of Sports Economics, 1*(3), 257-276.

Bailly, P. (2013). Les droits des salariés en matière de redressement judiciaire et liquidation de biens. Association Française de Droit du travail et de la Sécurité sociale, 25 January. Retrieved from http://www.afdt-asso.fr/fichiers/publications/bailly25012013.pdf

Barajas, Á, & Rodríguez, P. (2010). Spanish football clubs' finances: Crisis and player salaries. *International Journal of Sport Finance, 5*(1), 52-66.

Barajas, Á, & Rodríguez, P. (2014). Spanish football in need of financial therapy: Cut expenses and inject capital. *International Journal of Sport Finance, 9*(1), 73-90.

Bayle, M. (2009). Description of French collective insolvency proceedings. In O.E.F. Lobo (Ed.), *World insolvency systems: A comparative study* (pp. 224-279). Toronto, ON: Carswell.

Beech, J., Horsman, S.J.L., & Magraw, J. (2008). The circumstances in which English football clubs become insolvent. Centre for the International Business of Sport, working paper no. 4, Coventry University.

Beech, J., Horsman, S.J.L., & Magraw, J. (2010). Insolvency events among English football clubs. *International Journal of Sports Marketing & Sponsorship, 11*(3), 236-249.

Buraimo, B., Paramio, J.L., & Campos, C. (2010). The impact of televised football on stadium attendances in English and Spanish league football. *Soccer & Society, 11*(4), 461-474.

Buraimo, B., Simmons, R., & Szymanski, S. (2006). English football. *Journal of Sports Economics, 7*(1), 29-46.

Dermit-Richard, N. (2004). *La légitimité de la régulation financière des championnats professionnels de sports collectifs : Le cas du championnat professionnel de football en France*. PhD thesis, Université de Rouen, Mont-Saint-Aignan, France.

Durand, C. (1994). *Essai d'analyse structurelle et de diagnostic des clubs sportifs professionnels.* PhD dissertation, Université de Caen Basse-Normandie, Caen, France.

Gouguet, J.J., & Primault, D. (2006). The French exception. *Journal of Sports Economics, 7*(1), 47-59.

Hyest, J.J. (2005). *Rapport sur le projet de loi de sauvegarde des entreprises.* Sénat, Session ordinaire de 2004-2005, Rapport n°335. Retrieved from https://www.senat.fr/rap/l04-335/l04-335.html

Lago, U., Simmons, R., & Szymanski, S. (2006). The financial crisis in European football: An introduction. *Journal of Sports Economics, 7*(1), 3-12.

Leach, S. (2006). *Financial viability and competitive balance in English football.* Unpublished PhD thesis, University of London.

Ligue de Football Professionnel / Direction Nationale du Contrôle de Gestion (LFP/DNCG) (2012). *Situation du football professionnel : Saison 2011/2012.*

Ligue de Football Professionnel / Direction Nationale du Contrôle de Gestion (LFP/DNCG) (2014). *Situation du football professionnel : Saison 2013/2014.*

Pukan, R. (1991). *Rapport moral saison 1990-1991*. FFF / Ligue Nationale de Football, Caen, France.

Stankiewicz Murphy, S. (2011). L'influence du droit américain de la faillite en droit français des entreprises en difficulté. PhD thesis, Université de Strasbourg, Strasbourg, France.

Szymanski, S. (2012). Insolvency in English professional football: Irrational exuberance or negative shocks? Working Paper. Retrieved from http://www.soccernomics-agency.com/wordpress/wp-content/uploads/2012/11/Insolvency-and-English-football.pdf

Szymanski, S. (2015). *Money and soccer: A soccernomics guide.* New York: Nation Books.

Tetley, A. (2009). Payment failure situation. In O.E.F. Lobo (Ed.), *World insolvency systems: A comparative study* (pp. 202-223). Toronto, ON: Carswell.

Tetley, A., & Bayle, M. (2009). Insolvency law in France: Introduction. In O.E.F. Lobo (Ed.), *World insolvency systems: A comparative study* (pp. 195-201). Toronto, ON: Carswell.

UEFA (2012) Club Licensing Benchmarking Report, Financial Year 2011. Retrieved from http://www.uefa.org/MultimediaFiles/Download/Tech/uefaorg/General/01/91/61/84/1916184_DOWNLOAD.pdf

Tables

Table 1 Number of clubs (and groups) in the French soccer divisions from the first to the best regional over the period 1969-2014

	1969/70	**1970/72**	**1972/78**	**1978/93**	**1993/97**	**1997/2014**
1st division (D1)	18	20	20	20	20	18 until 2001/02 then 20
2nd division (D2)	16	48 (3*16)	36 (2*18)	36 (2*18)	22	22 in 1997/98 then 20
3rd division (D3)	72 (6*12)	75 in 1970/71, 81 in 1971/72 (6 groups)	96 (6*16)	96 (6*16)	36 (2*18)	20, 18 in 2013/14
4th division (D4)	240 (20*12)	240 (20*12)	240 until 1973/74 then 260 (20 groups)	112 (8*14)	72 (4*18)	72 (4*18), 62 in 2013/14 (2*15 and 2*16)
5th division (D5)	-	-	-	260 until 1979/80 (20 groups), 273 in 1980/81 (21 groups) then 286 (22 groups)	112 (8*14)	128 (8*16), 112 from 2012/13 (8*14)
6th division (D6)	-	-	-	-	286 (22*13)	308 (22*14)
Total number of clubs	**346**	**383 in 1970/71, 389 in 1971/72**	**392 until 1973/74 then 412**	**524 until 1979/80, 537 in 1981/82 then 550**	**548**	**568 in 1997/98, 566 until 2001/02, 568 again until 2011/12, 552 in 2012/13, 540 in 2013/14**

Table 2 Number of insolvencies per period and level in French soccer clubs over the period 1970-2014

	1st division	**2nd division**	**3rd division (1993-2014)**	**Total**
Entire period	**7**	**44**	**28**	**79**
1970-1981	2	8	-	10
1981-1992	2	27	-	29
1992-2003	2	6	16	24
2003-2014	1	3	12	16

Table 3 Consequences of relegation for cases of sporting relegation only and cases of insolvency

		5 years		10 years	
		Sporting relegations only	Insolvencies	Sporting relegations only	Insolvencies
All divisions	Number of cases	343	55	321	50
	Regaining previous level	180	14	212	18
	%	52.5%	25.5%	66.0%	36%
1st division	Number of cases	110	6	103	6
	Regaining previous level	73	4	82	4
	%	66.4%	66.7%	79.6%	66.7%
2nd division	Number of cases	163	30	160	28
	Regaining previous level	78	5	93	7
	%	47.9%	16.7%	58.1%	25%
3rd division	Number of cases	70	19	58	16
	Regaining previous level	29	5	37	7
	%	41.4%	26.3%	63.8%	43.8%

Table 4 Consequences of relegation for cases of insolvency according to the difference of level between t (insolvency event) and t+1

Difference of level	Clubs		Clubs regaining previous level / 5 years		Clubs regaining previous level / 10 years	
	Number	Percentage	Number	Percentage	Number	Percentage
1	23	41.8%	11	47.8%	14	63.6%
2	11	20%	2	18.2%	3	27.3%
3	15	27.3%	1	6.7%	1	9.1%
At least 4	6	10.9%	0	0%	0	0%
Total	55	100%	14	25.5%	18	36%

Table 5 Regressions explaining attendance variation in season t

	Attendance only	Attendance and position	Attendance and position and position/tier interaction	Fixed effects
ln(Attendance/∑Attendances) (t-1)	-0.153*** (0.0175)	-0.196*** (0.0163)	-0.195*** (0.0159)	-0.404*** (0.0258)
Δ ln(Attendance/∑Attendances) (t-1)	-0.134*** (0.0221)	-0.102*** (0.0194)	-0.102*** (0.0191)	-0.0465*** (0.0181)
ln (Population/∑Populations) (t)	0.0480*** (0.00663)	0.0387*** (0.00582)	0.0399*** (0.00563)	0.0192 (0.0634)
Main club	0.268*** (0.0418)	0.265*** (0.0362)	0.274*** (0.0352)	0.221* (0.132)
Promotion (t-1)	0.438*** (0.0204)	0.330*** (0.0215)	0.328*** (0.0220)	0.250*** (0.0234)
Relegation (t-1)	-0.365*** (0.0334)	-0.309*** (0.0302)	-0.329*** (0.0306)	-0.213*** (0.0306)
Second tier	-0.153*** (0.0224)	-0.0147 (0.0215)	-0.0681*** (0.0215)	-0.190*** (0.0266)
Third tier	-0.350*** (0.0441)	-0.176*** (0.0392)	-0.0627 (0.0557)	-0.307*** (0.0666)
P (t-1)		0.0890*** (0.00748)	0.0445*** (0.00805)	0.0474*** (0.0104)
Δ P (t)		0.175*** (0.00778)	0.107*** (0.00802)	0.101*** (0.00845)
P (t-1) * T2			0.0596*** (0.0118)	0.0635*** (0.0148)
Δ P (t) * T2			0.100*** (0.0140)	0.0993*** (0.0142)
P (t-1) * T3			0.148*** (0.0261)	0.188*** (0.0313)
Δ P (t) * T3			0.144*** (0.0246)	0.167*** (0.0272)
Constant	-0.611*** (0.0781)	-0.922*** (0.0782)	-0.855*** (0.0757)	-2.228*** (0.494)
Observations	2360	2360	2360	2360
R-squared	0.407	0.541	0.557	0.618
Number of clubs				176

*, ** and *** mean respectively significant at the 10, 5 and 1% levels.

Table 6 Probit regressions explaining insolvencies

	t	t:t-1	t:t-2	t:t-3	t:t-4	t:t-5
Professional * Association	1.195*** (0.259)	1.612*** (0.289)	1.582*** (0.320)	1.443*** (0.325)	1.421*** (0.375)	1.348*** (0.377)
Professional * Company	0.470** (0.240)	0.791*** (0.268)	0.806*** (0.298)	0.701** (0.305)	0.779** (0.359)	0.645* (0.359)
DNCG	0.294* (0.173)	0.285 (0.182)	0.191 (0.189)	0.159 (0.195)	0.091 (0.208)	0.085 (0.210)
Amateur control	0.412 (0.334)	0.273 (0.386)	-0.070 (0.406)	-0.296 (0.433)	-0.531 (0.459)	-0.378 (0.485)
Second tier	0.688*** (0.153)	0.633*** (0.158)	0.637*** (0.159)	0.625*** (0.160)	0.575*** (0.161)	0.575*** (0.166)
Third tier	1.300*** (0.343)	1.506*** (0.362)	1.733*** (0.375)	1.911*** (0.398)	2.025*** (0.409)	1.904*** (0.442)
Residual t	-0.636*** (0.224)					
Residual t:t-1		-0.566*** (0.174)				
Residual t:t-2			-0.373** (0.159)			
Residual t:t-3				-0.266* (0.141)		
Residual t:t-4					-0.152 (0.128)	
Residual t:t-5						-0.078 (0.119)
Constant	-3.475*** (0.290)	-3.848*** (0.324)	-3.758*** (0.347)	-3.592*** (0.350)	-3.543*** (0.392)	-3.436*** (0.397)
Observations	2360	2127	1940	1784	1648	1537
Insolvencies	69	58	55	52	46	43
Prob > chi2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo-R^2	0.124	0.150	0.144	0.140	0.132	0.128

*, ** and *** mean respectively significant at the 10, 5 and 1% levels.

Figures

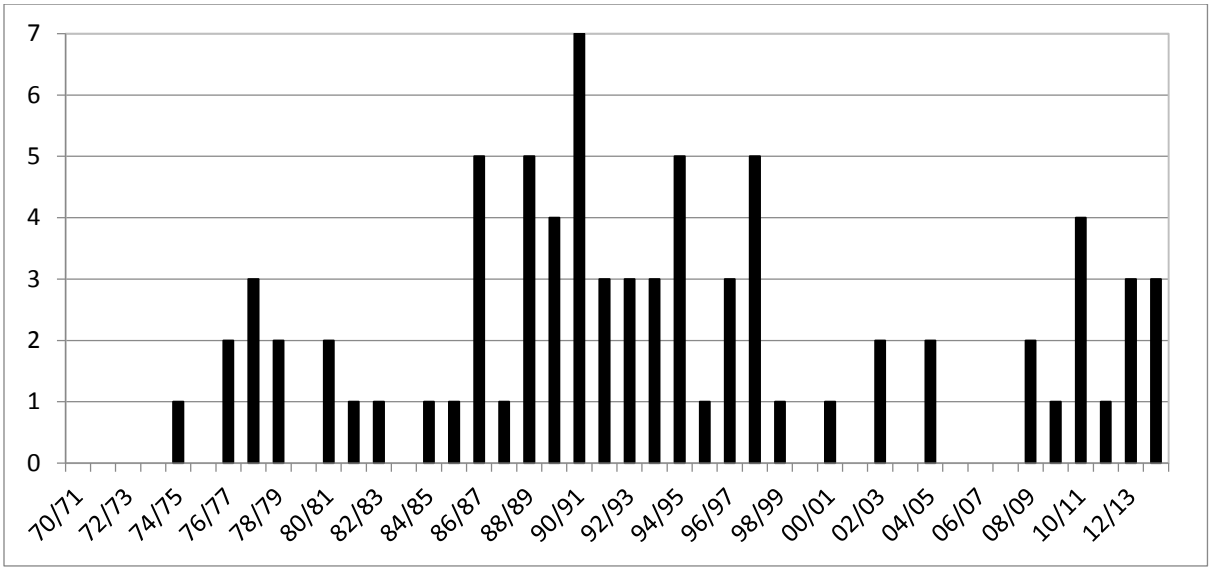

Figure 1 The frequency of insolvencies per season in French soccer clubs, 1970-2014

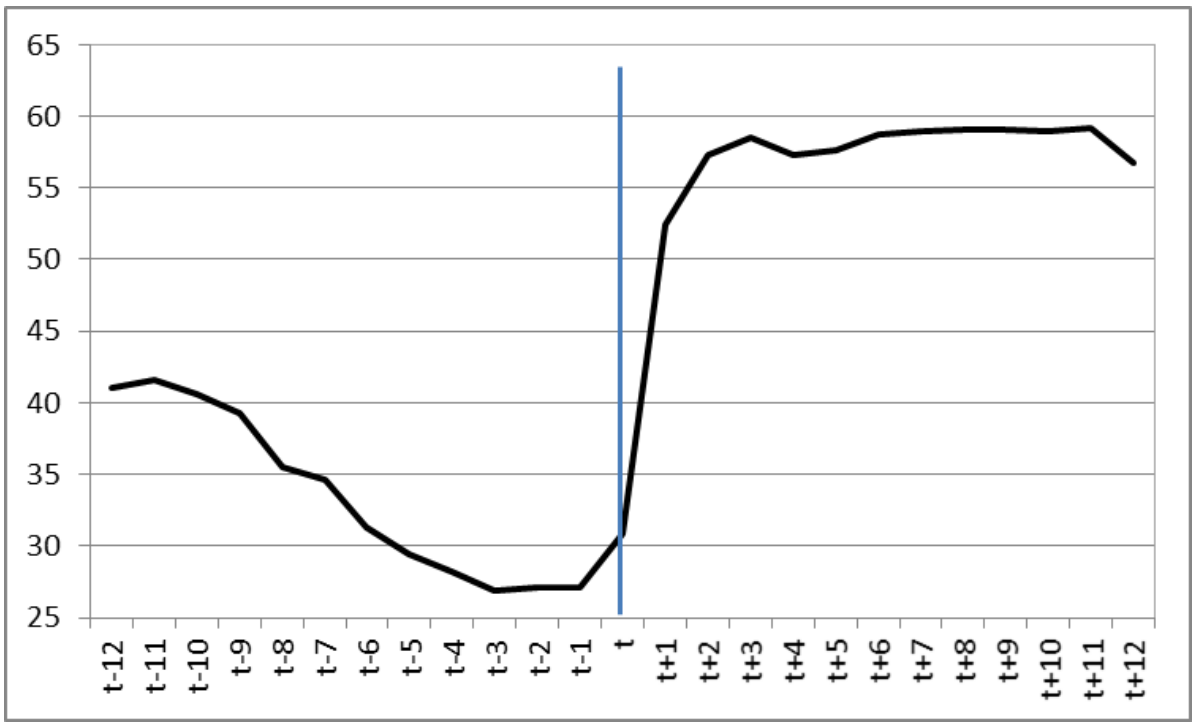

Figure 2 Average team position (normalized) from season t-12 to season t+12, where season t refers to any season in which insolvency occurred over the period 1970-1993

Figure 3 Average team attendance from season t-12 to season t+12, where season t refers to any season in which insolvency occurred over the period 1970-1993

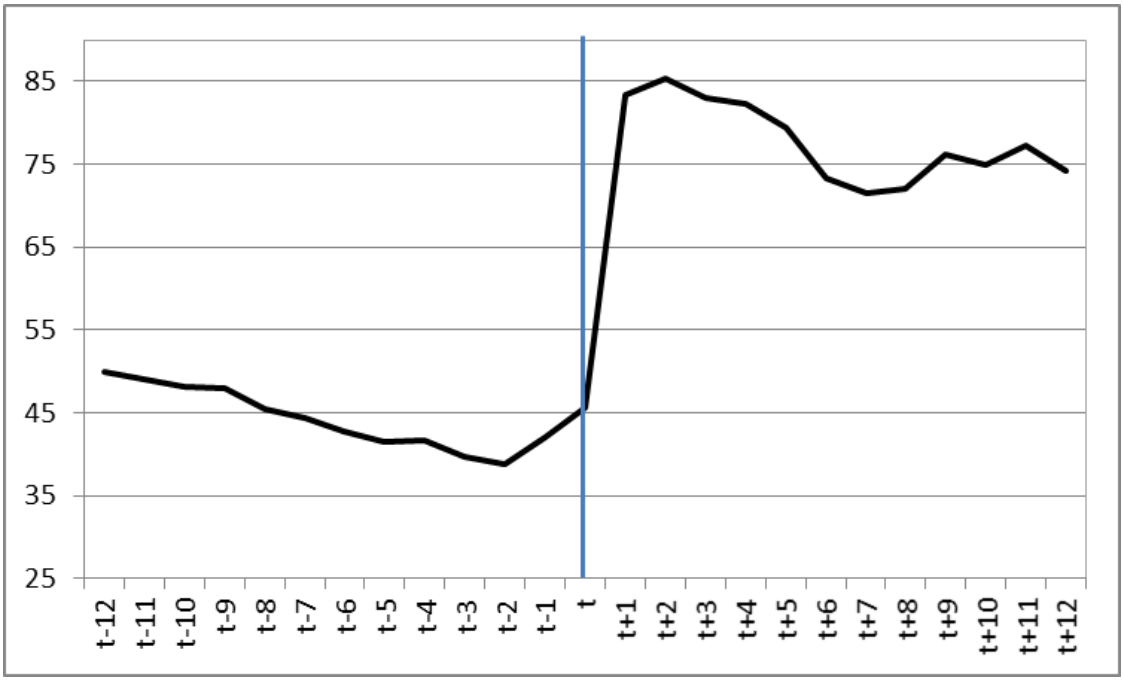

Figure 4 Average team position (normalized) from season t-12 to season t+12, where season t refers to any season in which insolvency occurred over the period 1993-2014

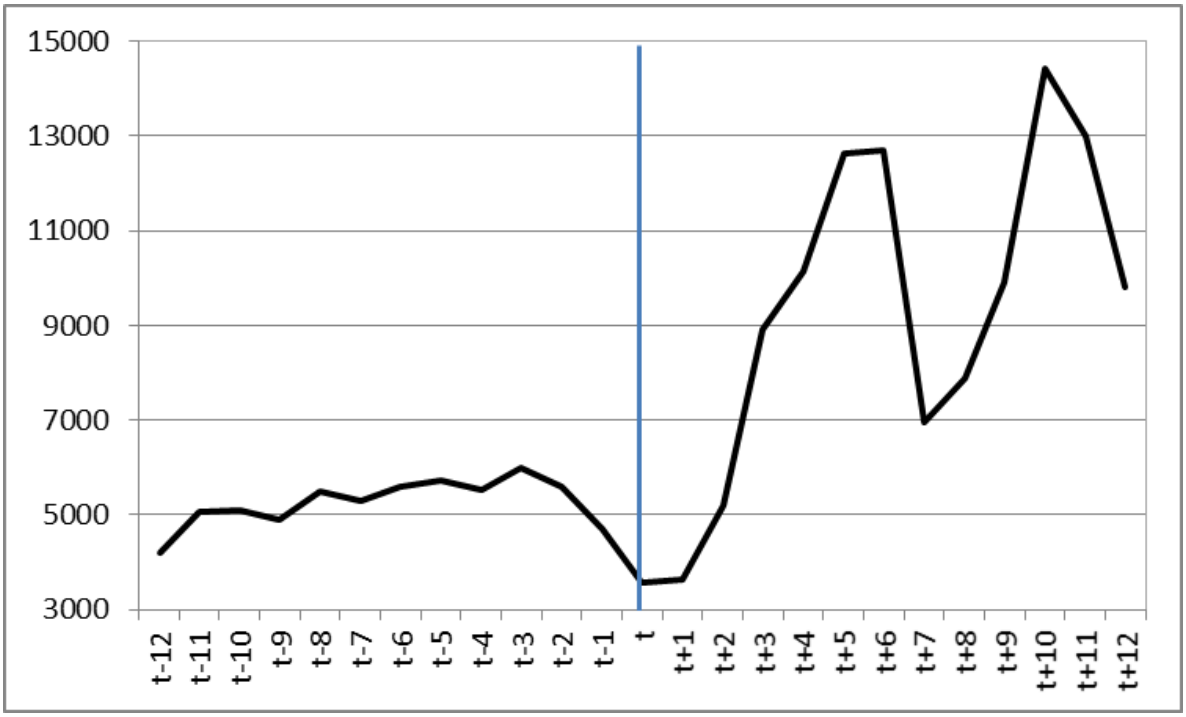

Figure 5 Average team attendance from season t-12 to season t+12, where season t refers to any season in which insolvency occurred over the period 1993-2014

Appendix

Appendix 1 Position "normalization"

Actual ranking	22 teams	21 teams	19 teams	18 teams	17 teams	16 teams	15 teams	14 teams	13 teams	12 teams	11 teams	10 teams	9 teams	8 teams
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	3	3	3	4
3	3	3	3	3	3	3	3	3	3	4	5	5	6	7
4	4	4	4	4	4	4	4	4	5	6	7	8	8	**10**
5	5	5	5	5	5	5	5	6	7	8	9	**10**	**10.5**	**11**
6	6	6	6	6	6	6	7	8	9	**10**	**10.5**	**11**	13	14
7	7	7	7	7	7	8	9	**10**	**10.5**	**11**	12	13	15	17
8	8	8	8	8	9	**10**	**10.5**	**11**	12	13	14	16	18	20
9	9	9	9	**10**	**10.5**	**11**	12	13	14	15	16	18	20	
10	9.5	10	**10.5**	**11**	12	13	14	15	16	17	18	20		
11	**10**	**10.5**	12	13	14	15	16	17	18	19	20			
12	**11**	11	13	14	15	16	17	18	19	20				
13	11.5	12	14	15	16	17	18	19	20					
14	12	13	15	16	17	18	19	20						
15	13	14	16	17	18	19	20							
16	14	15	17	18	19	20								
17	15	16	18	19	20									
18	16	17	19	20										
19	17	18	20											
20	18	19												
21	19	20												
22	20													